



## The Sarawak Museum Journal

Vol. L No. 71

December 1996



ISSN: 0375-3050

E-ISSN: 3036-0188

Citation: S. (Bas) van Balen. (1996). The Ornithological Importance of the Danau Sentarum Wildlife Reserve in West Kalimantan. The Sarawak Museum Journal, L (71): 126-137

### THE ORNITHOLOGICAL IMPORTANCE OF THE DANAU SENTARUM WILDLIFE RESERVE IN WEST KALIMANTAN

S. (Bas) van Balen

#### INTRODUCTION

The Danau Sentarum Wildlife Reserve (DSWR) is one of Indonesia's most important wetland sites and unique in South-east Asia and receives therefore high priority for conservation (Scott & Poole 1989). The area is Indonesia's second Ramsar site (D' Cruz & O' Gallagher 1994; O' Callaghan & D' Cruz 1994). In 1993 and 1994 the area was visited by the author in the framework of the United Kingdom-Indonesia Tropical Forest Management Project (ODA/PHPA) to make an inventory of the reserve's bird fauna. The surveys provided baseline data for the management of the present reserve by the provincial division of the Forestry Department's Directorate-General of Forest Protection and Nature Conservation (PHPA) and the inclusion of a large area of dipterocarp hill forest in the south east corner of the reserve.

# THE ORNITHOLOGICAL IMPORTANCE OF THE DANAU SENTARUM WILDLIFE RESERVE IN WEST KALIMANTAN

by

S. (Bas) van Balen

## INTRODUCTION

The Danau Sentarum Wildlife Reserve (DSWR) is one of Indonesia's most important wetland sites and unique in South-east Asia and receives therefore high priority for conservation (Scott & Poole 1989). The area is Indonesia's second Ramsar site (D' Cruz & O' Gallagher 1994; O' Callaghan & D' Cruz 1994). In 1993 and 1994 the area was visited by the author in the framework of the United Kingdom-Indonesia Tropical Forest Management Project (ODA/PHPA) to make an inventory of the reserve's bird fauna. The surveys provided baseline data for the management of the present reserve by the provincial division of the Forestry Department's Directorate-General of Forest Protection and Nature Conservation (PHPA) and the inclusion of a large area of dipterocarp hill forest in the south east corner of the reserve.

DSWR is located in the floodplain of the upper Kapuas River (West Kalimantan) and covers about 80,000 hectares of freshwater lakes and flooded forest (Jensen *et al.* 1994). An extension of a total of 125,000 ha has been approved by local authorities, and is being currently processed (W. Giesen 1995, pers. comm.). The fluctuation of water levels (with a range of up to 15 metres in some years) creates a unique environment, in which the ichthyofauna is of outstanding importance. Giesen (1987) provides detailed background information on history and general ecology of the area.

In this paper I describe the birds of the area in relation to the temporal and spatial aspects of the habitat under influence of the changing water levels, and discuss the importance of the area for the conservation of birds. An annotated checklist of the birds of the area is given, based on the observations during my surveys and those of others.

## ORNITHOLOGICAL SURVEYS

No other ornithological notes on the area are available other than from Enthoven (1903) reporting "several species of waterfowl" with many nests found. In 1986 a general survey was made of the area (Giesen 1987), during which 62 bird species were reported from the area. A more specialized

zoological survey was made from 1-24 December 1992 and 23 February - 8 March 1993 by Hood (1993), who observed 86 bird species. Shorter bird surveys include those from 8-18 August 1993 by Sebastian (1993), recording 73 species and from 26 November to 3 December 1994 by Dennis (1994) recording 65 species. From November 1993 to July 1994 R. Jensen repeatedly visited DSWR. The author visited the area from 28 July to 2 August 1993, and from 30 March - 9 April 1994.

## METHODS

Surveys were carried out by travelling on a boat into the inundated parts. Night observations were taken from small *perahus* and whilst camping out on a larger boat. In the dry parts such as hill forest survey work was done on foot, while camping out provided data on nocturnal birds. During the second survey counts were made along transects at five different localities, for which a small boat was used in the inundated areas. Whilst proceeding slowly, audiovisual contacts were recorded until between 186 and 250 individual birds were tallied.

## RESULTS

### Habitat and birds

A total of 228 bird species has been observed in DSWR, of which 18 await confirmation. Appendix 1 lists all species observed and also includes the results of five transects. Because of the relatively small sample sizes no statistical analyses have been carried out. The results give an idea of the relative abundance of birds in a number of habitats.

The long inundation periods in the flooded areas cause a stuntedness of the vegetation and therefore its structure. There is a contrast in particular between the upland forest and the adjacent seasonally swamped areas, as is shown in the following sections.

### Dwarf Swamp Forest

This habitat is dominated by 5-8 m tall trees and shrubs, shaped by being flooded for up to 10 months a year and at times submerged almost entirely. Most of this area had become exposed because of dropping water levels, shortly before our first survey in July 1993. The habitat is rather poor in birds, with no unique species in it. Most of the following birds that were commonly seen, belonged to species that were typical of disturbed habitat elsewhere in the reserve:



Greater Coucal	<i>Centropus sinensis</i>
Common Iora	<i>Aegithina tiphia</i>
Magpie Robin	<i>Copsychus saularis</i>
Striped Tit-babbler	<i>Macronous gularis</i>
Ashy Tailorbird	<i>Orthotomus ruficeps</i>
Scarlet-backed Flowerpecker	<i>Dicaeum cruentatum</i>
Brown-throated Sunbird	<i>Anthreptes malacensis</i>
Olive-backed Sunbird	<i>Nectarinia jugularis</i>

Localities visited: Surroundings of Tekenang (42 spp.), Pulau Majang/Lake Sempidan (17 spp.).

### ***Stunted Swamp Forest (including riparian forest)***

This forest is dominated by small to medium sized, 8-15 m tall trees, and flooded 5-8 months annually with 3-4 m deep water. During our first survey the water level had dropped and much of the otherwise inundated forest floor became exposed. A richer forest avifauna (especially birds of prey) was found here than in the dwarf swamp forest. The following species appear:

Blue-crowned Hanging-parrot	<i>Loriculus galgulus</i>
Indian Cuckoo	<i>Micropterus micropterus</i>
Red-crowned Barbet	<i>Megalaima rafflesii</i>
Broadbills	<i>Eurylaimidae</i>
Cuckoo-shrikes etc.	<i>Campephagidae</i>
Green Iora	<i>Aegithina viridissima</i>
Leafbirds	<i>Chloropsis</i> spp.
Velvet-fronted Nuthatch	<i>Sitta frontalis</i>
Spiderhunters	<i>Arachnothera</i> spp.
Greater Racquet-tailed Drongo	<i>Dicrurus paradiseus</i>

Locality visited: Gernis (58 spp.)

### ***Tall Swamp Forest***

This is dominated by 25-30 m straight stemmed trees, and inundated for 3-6 months annually with up to 3 m water depth. Not essentially different from the stunted swamp forest but had more birds from the adjacent hills, such as Short-tailed Babbler *Trichastoma malaccense* and the Hill Myna *Gracula religiosa*.

Localities visited: Nanga Pemera (56 spp.) and Empaik (64 spp.).

### ***Hill Forest***

This is tall lowland forest in which dipterocarp trees dominate, with emergents up to 35-45 m. Especially the large number of species of babblers and



hornbills was striking. Of the galliforms observed the Great Argus *Argusianus argus* and Crested Fireback *Lophura ignita* have been confirmed, but more species are to be expected. So far more than forty bird species (> 20% of the total number in DSWR) are only found in the hills and not elsewhere in the reserve.

Localities visited: Mt. Semujan (95 spp.) and Mt. Menyukung (100 spp.)

### ***Regenerating Shrub Woodland***

Most of this is found in the peripheries on the higher ground of DSWR where logging was followed by burning. Recently burnt areas had numerous trunks and dead trees, the older areas were covered with tall grass and shrubs. Seven species of woodpeckers were observed, apparently attracted by the copious amounts of decaying wood after the slashing and burning of the forest. Apart from woodpeckers this habitat was rather poor in birds.

Localities visited: Mt. Tekenang (47 spp.) and Nung (71 spp.)

### ***Seasonal changes***

Though no counts were made in the period of lowest or highest water levels, some clear interseasonal differences in composition of the DSWR avifauna in particular in the flooded areas were found. On the survey in July/August water levels had been dropping to about 3 m as compared to the March/April water levels which were about 13.5 m. Table 1 gives a list of birds in which seasonal patterns in occurrence were noticed.

### ***Waterbirds***

Little terns *Sterna albifrons* appeared in larger numbers when water levels were low and were especially common in August. Some of these were seen in breeding plumage. Though breeding on exposed riverbanks is reported by local fishermen, so far it is assumed that the species is only a winter visitor. During the flooding season the White-breasted Waterhen *Amaurornis phoenicurus* seemed to be much less common which agrees with its more terrestrial lifestyle. The existence of breeding Purple Herons *Ardea purpurea* in September/October on Lake Bekuan (Dennis 1994) was reported but could not be confirmed.

### ***Migratory birds***

What migratory birds other than passerine species have been common in former times (see Giesen 1987) is unclear. The area may offer extensive feeding habitat to waders in the dry season. Few Common Sandpipers *Actitis hypoleucos*, Wood Sandpipers *Tringa glareola*, and Little Ringed Plover *Charadrius dubius* have been observed during the present survey. Migratory passerines include the Barn Swallow *Hirundo rustica*, Arctic Warbler